

SONY®

White paper

June 2012



XPERIA ion

LT28h

Purpose of this document

Sony product White papers are intended to give an overview of a product and provide details in relevant areas of technology.

Document history

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Sony Mobile Developer World

For the latest technical documentation and development tools, go to <http://developer.sonymobile.com/wp>.

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Product overview

Sony Xperia™ ion HSPA – Experience big screen HD

The premium HD smartphone that brings an everything in HD experience to a 4.6" screen.

See every detail

Watch the latest movies, TV shows or your own HD videos in razor sharp clarity on the stunning 4.6" HD Reality Display with Mobile BRAVIA® Engine. Crisp images. No jagged edges. With reduced light reflection, the picture stays clear when you're outdoors too. Merely the best entertainment experience in HD.

From sleep to snap – in just over a second

Happy faces. Spectacular scenery. Capture it all with Xperia™ ion HSPA's fast capture 12 megapixel camera. Keep shooting with only one second between shots. Or record vacation videos in full HD. View in vibrant colors on the 4.6" touchscreen. Or wirelessly share your memories on your choice of HD screen.

Show it like it is

Connect your Xperia™ ion HSPA to an HDTV using DLNA or an HDMI cable. Now relive those moments from the comfort of your couch, or pump up the volume on your playlist at the party. It's up to you.

Sony Entertainment Network* – Your ultimate source for digital entertainment.

Feasts for film fans, masses of music. Enjoy millions** of songs from Music Unlimited™. Or download your favourite hit movies from Video Unlimited™. It's all on Sony Entertainment Network. No trips to the store. No late fees. Just pure entertainment.

** Sony Entertainment Network with Video Unlimited™ and Music Unlimited™ are not available in all markets.*

*** The number of tracks available varies by country.*



Signature features

The Sony Xperia™ ion HSPA comes with a range of features as standard. Below is a summary of the key signature features.

Xperia™ Timescape™

Communication made easy

The Timescape™ application manages all your communication with one person in one place. You can effortlessly browse by category your Facebook™, Twitter™, email and text communications, as well as view your photos. Now everything is all together and in chronological order, so you don't have to open different applications to see what's going on.

Xperia™ Infinite button

Everything you want – from everywhere

Tap the infinite button in the Timescape™ application and smart filter each category of communication by person. For example, when viewing a text message from a friend in Timescape™, tap the infinite button to view a list of all chat messages with that friend.

Xperia™ Local connectivity

More control over your media

Using Sony Local connectivity, you can exercise more control over how media files get transferred and stored. For example, you can select MTP mode to transfer files if you want to limit the risk of data corruption or select MSC mode if you want to have more control over the data storage.

Xperia™ Home screen application

The place you call Home

Customise your Home screen with widgets, shortcuts, folders, themes, wallpaper and other items.

Where's best for you? Email top right? Music player bottom left? You decide. With four extensions to your Home screen, you've got plenty of space to put things where you want. Just remember to flick left or right to find them.

Facts – dimensions, weight, performance and networks

Operating system	Google™ Android™ 4.0 (Ice Cream Sandwich)
Processor	1.5 GHz Qualcomm APQ8060 Dual Core
GPU	Adreno 220
Size	133 x 68 x 10.8 mm
Weight	144 grams
Available colours	Black Red
SIM card	Micro SIM
Main screen	
Colours	16,000,000 colour TFT
Resolution	1280x720 pixels
Size (diagonal)	4.55 inches
Scratch-resistant	Shatter proof sheet on scratch-resistant glass
Input mechanisms	
Text input	On-screen QWERTY keyboard
Touch screen	Capacitive
Touch gesture	Yes – multi-touch, up to 4 fingers supported
Memory	
Internal phone storage	13.2 GB* (up to 11.24 GB user-accessible memory)
RAM	1 GB
Expansion slot	microSD™ card, up to 32 GB
Camera	
Camera resolution	12.1 MP
Digital zoom	16x
Photo light	Yes
Video recording	Yes – HD 1080p
Front Camera	Yes – HD 720p for video chat and 1.3 MP for camera capture
Sensors	
Accelerometer	Yes
Proximity sensor	Yes

Ambient light sensor	Yes
Magnetometer	Yes
Gyroscope	Yes
Networks	
LT28h	UMTS HSPA+ 850 (Band V), 900 (Band VIII), 1700 (Band IV), 1900 (Band II), 2100 (Band I) GSM EDGE 850, 900, 1800, 1900
Data transfer speeds	
GSM EDGE	Up to 237 kbps
UMTS HSPA cat 6 (upload)	Up to 5.8 Mbps
UMTS HSPA cat 24(download)	Up to 42 Mbps
Talk time (GSM)	Up to 10 hours**
Standby time (GSM)	Up to 400 hours**
Talk time (UMTS)	Up to 4 hours**
Standby time (UMTS)	Up to 350 hours**
Music listening time	Up to 12 hours**
Video playback time	Up to 3 hours**
Embedded Battery	1900 mAh typical 1840 mAh minimum

* Internal phone storage comprising 2 GB Phone memory for downloadable applications, and 11.2 GB Internal storage used for music, pictures and movies, and some application data.

** Values are according to GSM Association Battery Life Measurement Technique as performed in controlled laboratory conditions. Actual time may vary.

NOTE: All performance metrics are measured under laboratory conditions.

NOTE: Battery performance may vary depending on network conditions and configurations, and phone usage.

Categorized feature list

 Camera 3D Sweep Panorama 12.1 megapixel camera 16x digital zoom Auto focus Face detection Flash/Photo light Front-facing camera (HD 720p) Geotagging HD video recording (1080p) Image stabiliser Red-eye reduction Self-timer Scene recognition Send to web Smile detection Sony Exmor R™ for mobile image sensor Sweep Panorama Sweep Multi Angle Touch capture Touch focus Video light Video recording	 Music Album art Bluetooth™ stereo (A2DP) TrackID music recognition* “WALKMAN” application xLoud™ Experience	 Internet Bookmarks Google Play™ Google™ search* Google Voice™ Search* Google Maps™ for Mobile with Navigation, Places and Latitude™* Pan & zoom Web browser (WebKit™)
 Communication Call list Facebook™ application* Google Talk™ application* Noise suppression Speakerphone Twitter™ (Timescape™ integration)* Xperia™ Timescape™ Xperia™ with Facebook™	 Messaging Conversations Email Google Mail™* Messaging Multimedia messaging (MMS) Predictive text input Sound recorder Text messaging (SMS)	 Design Auto rotation Gesture input Gyroscope on-screen QWERTY keyboard HD Reality Display with Sony Mobile BRAVIA® Engine Screenshot capturing Voice input Wallpaper

 Entertainment 3D Album 3D games - Media browser - Motion gaming - PlayStation® Certified - Radio (FM radio with RDS) - Sony Entertainment Network* - TV launcher - YouTube™*	 Organiser - Airplane mode - Alarm clock - Calculator - Calendar - Contacts - Document readers - eCompass™ - Infinite button - LiveWare™ manager - Notes - OfficeSuite - Setup guide	 Connectivity 3.5 mm audio jack (CTIA) - aGPS* - ANT+ sports fitness - Bluetooth™ wireless technology - DLNA Certified® - GLONASS* - HDMI support - Media Go™ - Media Transfer Protocol support - Micro USB support - Native USB tethering - NFC - PC Companion - Synchronising via Facebook™ - Synchronising via Google™ - Synchronisation via Microsoft® Exchange ActiveSync® - Synchronising via SyncML™ - USB High speed 2.0 support - USB host - Wi-Fi® - Wi-Fi® Hotspot functionality
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* This service is not available in all markets.

Technologies in detail

NOTE: The information outlined below is general and levels of compliance to standards and specifications may vary between products and markets. For more information, contact Sony Mobile Developer World or your Sony contact person where applicable.

Device-to-device communications (local)

Bluetooth™ wireless technology

Bluetooth™ profiles supported	Advanced Audio Distribution Profile v1.2 Audio/Video Remote Control Profile v1.0 Handsfree Profile v1.5 Headset Profile v1.1 Object Push Profile v1.1 Phonebook Access Profile v1.0
Core version and supported core features	Advanced Audio 2.1 + EDR
Connectable devices	Products supporting at least one of the profiles above.

More information:

<http://developer.sonymobile.com/wp>

www.bluetooth.com

Wi-Fi®

Supported standards	IEEE 802.11b/g/n and Wi-Fi®
Connectable devices	Wi-Fi® access points
Frequency band	2.4 GHz
Data transfer rate	Up to 72 Mbit/s
Security	WEP 64 bit WEP 128 bit TKIP CCMP (AES) Open Authentication Shared Authentication EAP-SIM EAP-TLS EAP-TTLS/MSCHAPv2 PEAPv0/EAP-MSCHAPv2 PEAPv1/EAP-GTC WPA Personal and WPA2 Personal WPA Enterprise and WPA2 Enterprise
Encryption	WEP, TKIP and AES
Power save	WMM-UAPSD QoS, WMM

DLNA Certified® (Digital Living Network Alliance)

Supported Device Classes	M-DMS – Mobile Digital Media Server Media Types: images Summary: The digital media server exposes the media files in your phone to a Wi-Fi® network. The files can then be accessed from other DLNA Certified® clients. +PU+ Media Types: image, video and music Summary: Play media in the phone on another device, such as a TV or computer using 2 box push technology. +PU+ is integrated in the Gallery and Music applications. M-DMP – Mobile Digital Media Player Media Types: image, video and music Summary: Play content stored on another device, for example, a server or a PC, directly on the phone.
Supported Bearers	Wi-Fi®
DRM Support	The DLNA Certified® implementation does not support DRM-protected content.

Messaging

MMS (Multimedia Messaging Service)

According to OMA Multimedia Messaging Service v1.0 + SMIL

Email

Bearer type (IP)	GPRS, EGPRS, UMTS
Character sets	BIG5 Traditional Chinese GB18030 ISO-2022-JP Japanese ISO-8859-1 ISO-8859-2 Eastern Europe ISO-8859-5 Cyrillic ISO-8859-7 Greek ISO-8859-9 Turkish ISO 8859-11 KOI8-R Cyrillic Shift_JIS Japanese USASCII UTF-16 UTF-8 Windows® 874 Windows® 1251 Cyrillic Windows® 1252 Windows® 1254 Turkish Windows® 1258 Vietnamese
Protocols	POP3 and IMAP4
Push email	Microsoft® Exchange ActiveSync® (EAS)
Secure email	SSL/TLS, both port methods (POPS/IMAPS) and START-TLS
HTML mail	Yes (read only)

More information:

<http://developer.sonymobile.com/wp>

www.openmobilealliance.org

Positioning – location based services

Supported standards:

- OMA Secure User Plane Location (SUPL) v1.0
- 3GPP™ Control Plane location (including Emergency location)
- Qualcomm® GPSTOneXtra™

Supported satellite systems:

- GPS
- GLONASS*

* **NOTE:** GPS and GLONASS are used together to calculate the position. Positioning is more robust and accurate in most conditions, if both systems are active. The benefits of using GLONASS are automatically available for all applications using the Satellite Positioning API ("GPS Provider" in Android terminology).

Provisioning (OMA CP)

OMA CP version 1.1

Multimedia (audio, image and video)

Audio Playback	Decoder format	Supported in file format
	Audio decoding MPEG-1/2/2.5, audio layer 3	MP3 (.mp3), 3GPP (.3gp), MP4 (.mp4, .m4a)
	AAC, AAC+, eAAC+	3GPP (.3gp), MP4 (.mp4)
	AMR-NB, AMR-WB	3GPP (.3gp)
	General MIDI (GM)	SMF (.mid)
	Linear PCM 16bit	WAV (.wav)
	OTA	OTA (.ota)
	vorbis	Ogg (.ogg)
Audio Recording	Encoder format	Supported in file format
	AMR-NB, AMR-WB	3GPP (.3gp), MP4 (.mp4), AMR (.amr)
	AMR-NB, AMR-WB, AAC-LC stereo Sample rate: 48 kHz Bit rate: 128 kbps	3GPP (.3gp), MP4 (.mp4)
Image Playback	Decoder format	Supported in file format
	1, 4, 8, 16, 24 and 32 bpp and RLE encoded formats	BMP (.bmp)
	Single and multi-frame, bitmap mask support (GIF87a format and GIF89a format)	GIF (.gif)
	Joint Photographic Experts Group	JPEG (.jpg)
	Portable Network Graphics Bitmap mask support	PNG (.png)
	Wireless Bitmap	WBMP (.wbmp)
Image Capture	Encoder format	Supported in file format
	Joint Photographic Experts Group	JPEG (.jpg)
Video Playback	Decoder format	Supported in file format
	MPEG-4 Simple Profile Level 6, Advanced Simple Profile Level 5	3GPP (.3gp), MP4 (.mp4), Matroska (.mkv), AVI (.avi, .xvid), (.mov)
	H.264 High Profile Level 3.2	3GPP (.3gp), MP4 (.mp4), Matroska (.mkv)
	H.263 Profile 0 Level 70	3GPP (.3gp)
	VP8	WebM (.webm)

Video Recording	Encoder format	Supported in file format
	Video H.263 Profile 0, H.264 Baseline Profile Audio: AAC-LC stereo Sample rate: 48 kHz Bit rate: 128 kbps, AMR-NB	3GPP (.3gp), MP4 (.mp4)
Audio/Video Streaming	Streaming transport	RTSP according to 3GPP™ HTTP streaming
DRM	DRM (Digital Rights Management) – features the rights and copy protection of downloaded content	OMA DRM 1.0 Marlin DRM

Synchronisation (OMA DS, EAS, Google Sync™)

OMA Data Synchronisation protocol versions 1.1.2 and 1.2

OMA Data Formats: vCard 2.1, vCalendar 1.0

Microsoft® Exchange ActiveSync® protocol version 2.5

Microsoft® Exchange ActiveSync® protocol version 12

Microsoft® Exchange ActiveSync® protocol version 12.1

Microsoft® Exchange ActiveSync® protocol version 14

Microsoft® Exchange ActiveSync® protocol version 14.1

Google Sync™

Related information:

<http://developer.sonymobile.com/wp>

Web browser

Browser version	Android 4.0 Browser (Based on WebKit™)
Browser Application	Bookmark synch Desktop mode Full-page PC rendering Internet search Landscape/portrait rendering NFC Link Sharing Off-line reading Pan & Zoom
Browser compliancy	CSS 2.0 CSS 2.1 CSS 3.0 DOM 2.0 DOM 3.0 HTML version. 4.0 HTML version. 5.0 JavaScript 1.7/ECMA-script 262 3rd edition WebGL 1.0 XHTML Basic version 1.0 XHTML 1.1 SVG 1.1
Supported Device API	Device orientation API File reader API Geo-location API Touch events API (including multi-touch)
Protocol compliancy	Gzip HTTP/1.1 OMA Download 1.0 TLS 1.0 and SSL 3.0

Related information:

<http://developer.sonymobile.com/wp>

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